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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/992,387

11/16/2001

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TI-31794

7595

23494 7590 03/23/2010  
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EXAMINER

PHAM, THANH V

ART UNIT

PAPER NUMBER

2894

NOTIFICATION DATE

DELIVERY MODE

03/23/2010

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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ANTHONY L. COYLE and MILTON L. BUSCHBOM

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Appeal 2009-014249  
Application 09/992,387  
Technology Center 2800

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Decided: March 19, 2010

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Before KENNETH W. HAIRSTON, KARL D. EASTHOM, and CARL W.  
WHITEHEAD, JR., *Administrative Patent Judges*.

WHITEHEAD, JR., *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 25-31. App. Br. 2. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We affirm.

### STATEMENT OF THE CASE

Appellants invented a ball-grid array or land grid array plastic integrated circuit device that has electrically conductive vias extending through an interposer.<sup>1</sup>

Claim 25, which further illustrates the invention, follows:

25. A device comprising:

an integrated circuit chip having a plurality of contact pads;

a single-layered insulating film having a top surface and a bottom surface;

an electrically conductive pattern formed of a conductive film disposed on the top surface of the insulating film;

vias extending through the interposer filled with conductive material, contacting the conductive pattern, and forming exit ports on the bottom surface;

the bottom surface immediately adjacent the exit ports free of a

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<sup>1</sup> See App. Br. 2-3.

conductive pattern and contact pad; and  
  
thermo-compressed electrical coupling members disposed between the  
  
contact pads and conductive lines, connecting the chip to the  
  
interposer.

### *The Rejections*

The Examiner relies upon the following prior art references as  
evidence of unpatentability:

Miles	US 5,535,101	Jul. 9, 1996
Taniguchi	US 5,953,592	Sep. 14, 1999

Claims 25-31 stand rejected under 35 U.S.C. § 103(a) as being  
unpatentable over Miles and Taniguchi (Ans. 3-6).

Rather than repeat the arguments of Appellants or the Examiner, we  
refer to the Appeal Brief (filed November 27, 2006) and the Answer (mailed  
August 3, 2007) for their respective details. In this decision, we have  
considered only those arguments actually made by Appellants. Arguments  
which Appellants could have made but did not make in the Brief have not  
been considered and are deemed to be waived. *See* 37 C.F.R. §  
41.37(c)(1)(vii) (2008).

### ISSUE

Does the combination of Miles and Taniguchi disclose an integrated  
circuit chip package with vias extending through an interposer wherein the  
bottom surface immediately adjacent the exit ports is free of a conductive  
pattern and contact pad?

## PRINCIPLES OF LAW

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See In re Kahn*, 441 F.3d 977, 987-88 (Fed. Cir. 2006), *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991) and *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). The Examiner can satisfy this test by showing some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *KSR Int'l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (citing *In re Kahn*, 441 F.3d at 988).

“Non-obviousness cannot be established by attacking references individually where the rejection is based upon the teachings of a combination of references.” *In re Merck*, 800 F.2d 1091, 1097 (Fed. Cir. 1986) (citing *In re Keller*, 642 F.2d 413, 425 (Fed. Cir. 1981)).

## ANALYSIS

### *Claim 25*

Appellants argue that while the Examiner acknowledges that the Miles reference does not disclose all of the elements of claim 25, the Examiner fails to cure Miles’ defect when relying upon Taniguchi to modify the Miles’ invention (App. Br. 4). Appellants further argue that the device in claim 25 is devoid of a TAB tape, a sealing resin or a die pad bonding material, therefore, the solution proposed by Taniguchi does not necessarily apply to the device described in claim 26 [sic] (App. Br. 5).

Appellants conclude:

The solution proposed by the Taniguchi reference

for solving the evaporation moisture problem is to form one hole in the tape after the step of fixing the chip to the tape so that it is not filled up with adhesive resin and therefore can function as a vapor escape hole. A hole not filled with adhesive resin is not an element in the device described in claim 25 of applicants' application because claim 25 does not disclose a device that employs adhesive resin.

Applicants respectfully submit that the motivation to combine as suggested in the Office Action is misplaced because the combination would be to solve a non-problem in the device described in claim 25. And for a person of ordinary skill in the art, this fact would be obvious - the nature of the problem to be solved does not concerns the device described in claim 25.

(App. Br. 6).

We do not find the Appellants' arguments to be persuasive. The Examiner relied upon the combination of Miles and Taniguchi to determine that the invention in claim 25 was obvious. *See* Ans. 3-5. Appellants do not address the combination of Miles and Taniguchi. Appellants instead chose to address the relevance of Taniguchi and how it relates to the invention in claim 25. Therefore we will sustain the Examiner's rejection of claim 25 over Miles and Taniguchi since the Appellants have not offered any arguments to the contrary.

#### *Claim 28*

Appellants argue:

The Office Action rejects claim 28 on exactly the same ground as regarding claim 25 - the Miles reference fails to disclose element (d) but the Taniguchi reference cures the

defect and the motivation for combining the teaching of the two references is that "it aids in protecting the device from bulging." [*footnote omitted*].

Clearly, the causes of the problem that the Taniguchi reference is purported to solve is absent in the substrate described in claim 28 of applicants' application. There is no mentioning of a TAB tape, no mentioning of an adhesive resin and no mentioning of a die bonding material, where moisture may be absorbed.

(App. Br. 7)

We do not find the Appellants' arguments to be persuasive for the same reasons we stated previously. Appellants chose to address the relevance of Taniguchi and how it relates to the invention in claim 28. Appellants do not address the combination of Miles and Taniguchi that the Examiner relied upon to establish obviousness. Therefore we will sustain the Examiner's obviousness rejection of claim 28.

*Claims 26, 27, 29, 30 and 31*

Appellants argue that claims 26 and 27 properly depend upon claim 25; and claims 29-31 properly depend upon claim 28 and therefore claims 26, 27 and 29-31 are patentable because the Examiner failed to establish a prima facie case of obviousness against claims 25 and 28 (App. Br. 7). We do not find the Appellants' argument persuasive for the same reasons we stated previously since Appellants have not presented any patentability arguments specifically stating how each of the claims is patentable over the prior art of record.

### CONCLUSION

The combination of Miles and Taniguchi discloses an integrated circuit chip package with vias extending through an interposer wherein the bottom surface immediately adjacent the exit ports are free of a conductive pattern and contact pad.

### ORDER

We will sustain the Examiner's decision rejecting claims 25-31.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

### AFFIRMED

gvw

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